



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,956	01/02/2002	Rupal Parikh	INTL-0654-US	2162
21906	7590	12/08/2005	EXAMINER	
TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024			WONG, LINDA	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/038,956	PARIKH, RUPAL	
	Examiner	Art Unit	
	Linda Wong	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 October 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-6, 11-16 and 21-26 is/are rejected.
- 7) Claim(s) 7-10, 17-20 and 27-30 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

2. Applicant's arguments, see Applicant's Arguments, filed 10/31/2005, with respect to the rejection(s) of claim(s) 1-30 under Alston have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Robertson (US Publication No.: 20010042219).

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-3,5-6,11-13,15-16,21-23,25-26** are rejected under 35 U.S.C. 102(e) as being anticipated by Robertson (US Publication No.: 20010042219).
 - a. **Claim 1**, Robertson discloses a data synchronization system comprising receiving data at a first clock domain (Fig. 2, label DST Pipeline Inputs and Fig. 6, label 650), detecting an operation for writing data from a source to a target (Fig. 2, labels 321, 203 and 601-605) and sending a first domain write request or enable signal (Fig. 2, label 321), synchronizing the first domain write request

with the second domain (Fig. 2, labels 321, 611-615, and Domain B, Abstract, lines 7-9 and page 1, paragraph [0005]), transferring data from the first clocked domain to source to target in response to the synchronized first domain write request or enable signal (Fig. 2, labels 321 and 624, and Fig. 6, labels 321 and 624).

- b. **Claim 2**, Robertson discloses a signal indicating second clock domain is ready (Fig. 2, label 636) and inherently, discloses the data was transferred, since the next set of data is transferred based on if the buffer is empty. (Fig. 2, label 636 and page 4, paragraph [0038] and [0040], lines 13-19)
- c. **Claim 3**, Robertson discloses first domain write request signal or enable signal indicating data is available to be transferred (Fig. 2, label 321 and page 2, paragraph [0021]), initializing a data transfer of the data to the target location in the second domain (Fig. 2, labels 321 and Domain B), generating a second signal indicating synchronization of the first domain write request or enable signal with respect to second clocked domain (Fig. 2, label 624), data is transferred based on the second signal (Fig. 2, labels 624 and 650), generating a third signal, inherently, indicating transmission of data and second clocked domain is ready for next write. (Fig. 2, label 636 and page 4, paragraph [0038] and [0040], lines 13-19)
- d. **Claim 5**, Robertson discloses a first register (Fig. 2, label 206) and a shadow register of the first register (Fig. 2, labels 601-605) and a second memory buffer (Fig. 2, label 208) in the second domain (Fig. 2, labels Domain B and 601-605).

- e. **Claim 6**, Robertson discloses loading data into the intermediate register from the first register (Fig. 2, labels 206 and 208).
- f. **Claim 11**, Robertson discloses an apparatus comprising a data path coupleable between the first and second clocked domain (Fig. 2, labels Domain A, B, 206 and 208), a control logic (Fig. 2, labels 625, 635, 611-615, 207) to receive a plurality of data at a source location in the first domain (Fig. 2, labels 206, 207, Domain A), detecting at the first domain a first domain write request or enable signal to transfer data to the target location in the second domain (Fig. 2, label 321, 650, Domain A and B), synchronizing the enable signal with the second clocked domain (Fig. 2, labels 321, 611-615, and Domain B, Abstract, lines 7-9 and page 1, paragraph [0005]), data will be transferred in response to the synchronized enable signal (Fig. 2, labels 650, 601-605, 660 and 208).
- g. **Claim 12** inherits all the limitations of claim 2.
- h. **Claim 13** inherits all the limitations of claim 3.
- i. **Claim 15** inherits all the limitations of claim 5.
- j. **Claim 16** inherits all the limitations of claim 6.
- k. **Claim 21** inherits all the limitations of claim 1.
- l. **Claim 22** inherits all the limitations of claim 2.
- m. **Claim 23** inherits all the limitations of claim 3.
- n. **Claim 25** inherits all the limitations of claim 5.
- o. **Claim 26** inherits all the limitations of claim 6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 4,14,24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertson (US Publication No.: 20010042219) in view of Pawlowski (US Patent No.: 5592685).

a. **Claims 4,14 and 24**, Although Robertson does not disclose a state machine, Pawlowski discloses transferring data based on a transition from a first state to a second state. (Fig. 4, label Strt_Data and Col. 13, lines 13-17) It would be obvious to one skilled in the art to incorporate a state machine as disclosed by Pawlowski to Robertson's invention to provide data transferring between the asynchronous bus to prevent difficulties when interfacing between the two devices.

Allowable Subject Matter

5. **Claims 7-10,17-20,27-30** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Yamada et al (US Publication No.: 20020023238)
- b. Nguyen (US Patent No.: 5905766)
- c. Price et al (US Patent No.: 5450458).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linda Wong whose telephone number is 571-272-6044. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linda Wong



STEPHEN CHIN
SUPERVISORY PATENT EXAMINE
TECHNOLOGY CENTER 2600